



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,825	06/27/2001	Raymond F. Ayala	NORTH-451A/A-2354	4756

7590

04/21/2006

Terry J. Anderson, Esq.  
NORTHROP GRUMMAN CORPORATION  
1840 Century Park East  
Los Angeles, CA 90067-2199

EXAMINER
----------

HOLLOWAY III, EDWIN C

ART UNIT	PAPER NUMBER
----------	--------------

2612

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/892,825

Applicant(s)

AYALA ET AL.

Examiner

Edwin C. Holloway, III

Art Unit

2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 June 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-5 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

**EXAMINER'S RESPONSE**

1. In response to applicant's amendment filed 6-9-05, all the amendments to the specification and claims have been entered. The examiner has considered the new presentation of claims and applicant's arguments in view of the disclosure and the present state of the prior art. And it is the examiner's opinion that the claims are unpatentable for the reasons set forth in this

***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henderson (US 4914732) and Hyatt '044 in combination with Trombly (US 4207555), Perron (US 4031434), Aston (US 5351042) or Kilman (US 5479799).

Henderson discloses an electronic key 14 in fig. 12 having keypad 48 and display 50. The key includes coil 54 to communicate by electromagnetic energy to a lock 12 including coil 26 in fig. 9. The key includes a list of codes with expiration date in fig. 13 and includes two way exchange of information to open the lock. See col. 4 line 30 - col. 6 line 47 and col. 8 line 40 - col. 12 line 35. Henderson differs from the claims by not including transmitting power from the key to the lock and not including the lock transmitting a variable

Art Unit: 2612

interrogation.

Hyatt '044 discloses an analogous art lock system with the lock transmitting a seed number to the key which is encrypted with the code returned from the key. Since the seed is updated at the lock with each operation, it provides a variable interrogation. See figs. 9-12 and col. 6 line 62 - col. 8 line 58. Trombly, Perron, Aston and Kilman discloses keys inductively transmitting power and data to the lock.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have included in Henderson the variable interrogation and encryption of Hyatt '044 for increased security against code stealing and improper code input. It further would have been obvious to have included the inductive power transmission of Trombly, Perron, Aston or Kilman to maintain power on the lock suggested by Henderson including coils to communicate and transmitting power status from the lock to the key in cols. 10 and 29. Regarding claim 4, the power status signal of Henderson being directed to transmitted power would have been obvious in view of transmitted power in Trombly, Perron, Aston and Kilman.

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henderson (US 4914732) and Hyatt '044 in combination with Trombly (US 4207555), Perron (US 4031434),

Art Unit: 2612

Aston (US 5351042) or Kilman (US 5479799) as applied above and further in view of Stellberger (US 4509093).

If "any one of a plurality of variable signals" is a collection of random numbers generated and transmitted/received in single access then such would have been obvious in the combination applied above in view of Stellberger disclosing this in analogous art access key to increases the number of variations and to inhibit the breaking of codes. See the abstract and fig 3. of Stellberger.

5. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henderson (US 4914732) and Hyatt '044 in combination with Trombly (US 4207555), Perron (US 4031434), Aston (US 5351042) or Kilman (US 5479799) as applied above and further in view of Roddy (US 5889603), or further in view of Stellberger (US 4509093). Roddy discloses an analogous art lock and key system where the lock recharges power on the key and the key sends power status back to the lock so that the lock stops transmitting power when the key is fully charged to reduce heat build up in col. 4 lines 18-34. Regarding claim 4, the power status signal of Henderson being directed to transmitted power would further have been obvious in view of Roddy disclosing sending a power status signal corresponding to transmitted power. Regarding claim 5, it also would have been obvious to

one of ordinary skill in the art at the time the invention was made to have included the combination applied above the transmitting of power until a signal indicating sufficient power is returned as disclosed in Roddy to reduce heat build up.

Although Ruddy communicates the power from the lock to the key and status from the key to the lock, the difference would have been obvious in because Henderson discloses communicating status in the claimed direction and the other patent communicate power in the claimed direction and problem of heat build up would be overcome regardless of direction.

***Response to Arguments***

6. Applicant's arguments filed 6-9-05 have been fully considered but they are not persuasive.

The argument that the key interpreting any one of a plurality of variable signals in claim 1 corresponds to a variable interrogation having multiple stored cipher variables transmitted based on a number generated by a random number generators is not persuasive because the claims do not require multiple stored cipher variables or random numbers. Claim 1 is not limited to an interrogation question. Paragraph 64 of the specification states that the questions are constructed using multiple cipher variables and a random number generator, but does not explain how these correspond to the variable

Art Unit: 2612

interrogation signals or questions. The argument that the question and answer do not depend upon prior interaction is not persuasive because this is not stated in applicant's specification or claims.

The argument that Hyatt has only one possible interrogation question (the seed) is not persuasive because the seed changes. The seed is stored in a finite memory having a finite number of possible values and one of the plurality is transmitted with each interrogation. Further, each lock includes a different encryption codes and seeds, corresponding to a different variable signal. So the key receives and interprets any one of these plurality of variable signals. This is all the claim language requires. The argument that the seed is generated during a prior interaction is not persuasive because such is not excluded by the claims.

If the new limitation of "any one of a plurality of variable signals" is a collection of random numbers generated and transmitted/received in single access, then such would have been obvious in view of Stellberger disclosing this in analogous art access key to increases the number of variations and to inhibit the breaking of codes.

#### **Conclusion**

Art Unit: 2612

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

#### **CONTACT INFORMATION**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact an Electronic Business Center (EBC) representatives at 703-305-3028 or toll free at 866-217-9197 between the hours of 6 a.m. and midnight Monday through Friday EST, or by e-mail at [ebc@uspto.gov](mailto:ebc@uspto.gov). The



Art Unit: 2612

Patent EBC is a complete customer service center that supports all Patent e-business products and service applications. Additional information is available on the Patent EBC Web site at <http://www.uspto.gov/ebc/index.html>.


Any inquiry of a general nature should be directed to the Technology Center 2600 receptionist at (571) 272-2600.

Facsimile submissions may be sent via central fax number 571-273-8300 to customer service for entry by technical support staff. Questions related to the operation of the facsimile system should be directed to the Electronic Business Center at (866) 217-9197. On July 15, 2005, the Central FAX Number will change to.

CENTRALIZED DELIVERY POLICY: For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the Central FAX number, unless an exception applies. For example, if the examiner has rejected claims in a regular U.S. patent application, and the reply to the examiner's Office action is desired to be transmitted by facsimile rather than mailed, the reply must be sent to the Central FAX Number. Inquiries concerning only hours and location of the Customer Window may be directed to OIPE Customer Service at (703) 308-1202.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edwin C. Holloway, III whose telephone number is (571) 272-3058. The examiner can normally be reached on M-F (8:30-5:00). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (571) 272-7308.

EH  
4/18/06

  
EDWIN C. HOLLOWAY, III  
PRIMARY EXAMINER  
ART UNIT 2612